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CLAIMS

1. (amended) A wireless ad-hoc communication system constituted by a plurality of terminals, comprising:

5 a first terminal that encrypts a payload of a broadcast frame and that transmits the broadcast frame; and

a second terminal that receives the broadcast frame and that decodes the payload of the broadcast frame,

10 wherein the first terminal encrypts the payload of the broadcast frame using a broadcast encryption key assigned to the first terminal, and

the second terminal decodes the payload of the broadcast frame using the broadcast encryption key assigned to the first terminal.

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2. (amended) The wireless ad-hoc communication system according to claim 1, wherein the second terminal includes:

20 an encryption-key management list table having at least an encryption-key management list comprising a set of a terminal identifier of the first terminal and the broadcast encryption key assigned to the first terminal;

means for searching the encryption-key management list table based on the terminal identifier of the first terminal included in a start-terminal identifier of the received
25 broadcast frame to extract the corresponding broadcast

encryption key assigned to the first terminal; and

means for decoding the payload of the broadcast frame using the extracted broadcast encryption key assigned to the first terminal.

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3. (amended) The wireless ad-hoc communication system according to claim 1, wherein the first terminal includes:

a generated-key table that stores the broadcast encryption key assigned to the first terminal;

10 means for encrypting the payload of the broadcast frame using the broadcast encryption key assigned to the first terminal stored in the generated-key table; and

means for transmitting the encrypted broadcast frame.

15 4. (amended) A terminal comprising:

an encryption-key management list table having at least one encryption-key management list comprising a set of a terminal identifier of a different terminal and a broadcast encryption key assigned to the different terminal;

20 means for searching the encryption-key management list table for the encryption-key management list including a start-terminal identifier of a received broadcast frame to extract the corresponding broadcast encryption key; and

means for decoding a payload of the broadcast frame
25 using the extracted broadcast encryption key.

5. (amended) A terminal comprising:

an encryption-key management list table having at least one encryption-key management list that stores a unicast
5 encryption key between said terminal and a different terminal and a broadcast encryption key assigned to the different terminal in association with a terminal identifier of the different terminal;

means for, when an end-terminal identifier of a
10 received frame is a broadcast address, searching the encryption-key management list table for the encryption-key management list including a start-terminal identifier of the frame to extract the corresponding broadcast encryption key as an encryption key, and when the end-terminal identifier
15 of the received frame is other than a broadcast address, searching the encryption-key management list table for the encryption-key management list including a start-terminal identifier of the frame to extract the corresponding unicast encryption key as the encryption key; and
20 means for decoding a payload of the frame using the extracted encryption key.

6. (amended) A terminal comprising:

a generated-key table that stores a broadcast
25 encryption key assigned to said terminal;

means for encrypting a payload of a broadcast frame
using the broadcast encryption key; and

means for transmitting the encrypted broadcast frame.

5 7. (amended) A terminal comprising:

a generated-key table that stores a broadcast
encryption key assigned to said terminal;

an encryption-key management list table having at least
one encryption-key management list that stores a unicast
10 encryption key between said terminal and a different
terminal in association with a terminal identifier of the
different terminal;

means for, when a frame to be transmitted is a
broadcast frame, encrypting a payload of the broadcast frame
15 using the broadcast encryption key of the generated-key
table, and when the frame to be transmitted is a unicast
frame, searching the encryption-key management list table
for the encryption-key management list including an end-
terminal identifier of the unicast frame to encrypt a
20 payload of the unicast frame using the corresponding unicast
encryption key; and

means for transmitting the encrypted frame.

8. (amended) A terminal comprising:

25 means for encrypting a terminal identifier and a

broadcast encryption key of said terminal using a unicast encryption key assigned to a transmission-destination terminal; and

means for transmitting the encrypted terminal

5 identifier and broadcast encryption key of said terminal to the transmission-destination terminal.

9. (amended) A terminal comprising:

an encryption-key management list table having at least
10 one encryption-key management list that stores a broadcast encryption key of a different terminal in association with a terminal identifier of the different terminal;

means for encrypting the encryption-key management list using a unicast encryption key assigned to a transmission-
15 destination terminal; and

means for transmitting the encrypted encryption-key management list to the transmission-destination terminal.

10. (amended) A terminal comprising:

20 means for receiving a terminal identifier and a broadcast encryption key of a different terminal from the different terminal;

means for encrypting the terminal identifier and the broadcast encryption key of the different terminal using a
25 broadcast encryption key assigned to said terminal; and

means for broadcasting the encrypted terminal identifier and broadcast encryption key of the different terminal.

5 11. (amended) A method for decoding a broadcast frame in a terminal that includes an encryption-key management list table having at least one encryption-key management list comprising a set of a terminal identifier of a different terminal and a broadcast encryption key assigned to the
10 different terminal, the method comprising the steps of:

searching the encryption-key management list table for the encryption-key management list including a start-terminal identifier of a received broadcast frame to extract the corresponding broadcast encryption key; and

15 decoding a payload of the broadcast frame using the extracted broadcast encryption key.

12. (amended) A method for encrypting a broadcast frame in a terminal that includes a generated-key table storing a
20 broadcast encryption key assigned to said terminal, the method comprising the steps of:

encrypting a payload of the broadcast frame using the broadcast encryption key stored in the generated-key table; and

25 transmitting the encrypted broadcast frame.

13. A method for distributing a broadcast encryption key in a second terminal, comprising the steps of:

receiving a terminal identifier and a broadcast
5 encryption key of a first terminal that are encrypted using a unicast encryption key between the first terminal and the second terminal;

decoding the encrypted terminal identifier and broadcast encryption key of the first terminal using the
10 unicast encryption key;

encrypting a terminal identifier and a broadcast encryption key of the second terminal using the unicast encryption key; and

transmitting the encrypted terminal identifier and
15 broadcast encryption key of the second terminal to the first terminal.

14. (amended) A method for distributing a broadcast encryption key in a second terminal, comprising the steps

20 of:

receiving a terminal identifier and a broadcast encryption key of a first terminal that are encrypted using a unicast encryption key between the first terminal and the second terminal;

25 decoding the encrypted terminal identifier and

broadcast encryption key of the first terminal using the unicast encryption key;

encrypting the terminal identifier and the broadcast encryption key of the first terminal using a broadcast

5 encryption key assigned to the second terminal; and

transmitting the encrypted terminal identifier and broadcast encryption key of the first terminal to a third terminal.

10 15. (amended) A program that causes a terminal including an encryption-key management list table having at least one encryption-key management list comprising a set of a terminal identifier of a different terminal and a broadcast encryption key assigned to the different terminal to execute
15 the steps of:

searching the encryption-key management list table for the encryption-key management list including a start-terminal identifier of a received broadcast frame to extract the corresponding broadcast encryption key; and

20 decoding a payload of the broadcast frame using the extracted broadcast encryption key.

16. (amended) A program that causes a terminal including a generated-key table that stores a broadcast encryption key
25 assigned to said terminal to execute the steps of:

encrypting a payload of a broadcast frame using the
broadcast encryption key stored in the generated-key table;
and

transmitting the encrypted broadcast frame.

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17. A program that causes a second terminal to execute the
steps of:

receiving a terminal identifier and a broadcast
encryption key of a first terminal that are encrypted using
10 a unicast encryption key between the first terminal and the
second terminal;

decoding the encrypted terminal identifier and
broadcast encryption key of the first terminal using the
unicast encryption key;

15 encrypting a terminal identifier and a broadcast
encryption key of the second terminal using the unicast
encryption key; and

transmitting the encrypted terminal identifier and
broadcast encryption key of the second terminal to the first
20 terminal.

18. (amended) A program that causes a second terminal to
execute the steps of:

receiving a terminal identifier and a broadcast
25 encryption key of a first terminal that are encrypted using

a unicast encryption key between the first terminal and the second terminal;

decoding the encrypted terminal identifier and broadcast encryption key of the first terminal using the
5 unicast encryption key;

encrypting the terminal identifier and the broadcast encryption key of the first terminal using a broadcast encryption key assigned to the second terminal; and

transmitting the encrypted terminal identifier and
10 broadcast encryption key of the first terminal to a third terminal.